IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Robbert C. VAN DER LINDEN, et al.   Date: January 23, 2008

Serial No.: 10/648,760   Confirmation No.: 3722

Filed: August 25, 2003   Group Art Unit: 2109

                                                          Examiner: Kabir U. JAHANGIR

For: METHOD AND SYSTEM FOR STORING STRUCTURED DOCUMENTS STORED IN THEIR
         NATIVE FORMAT IN A DATABASE

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REPLY BRIEF UNDER 37 C.F.R. § 41.41

Dear Sir or Madam:

Pursuant to 37 C.F.R. § 41.41, Appellant submits this Reply Brief in response to the Examiner's

Answer mailed on April 18, 2008.

I.   REAL PARTY IN INTEREST

A statement identifying the real party in interest is contained in the Appeal Brief.

II.   RELATED APPEALS AND INTERFERENCES

A statement identifying the related appeals and interferences is contained in the Appeal Brief.

III.   STATUS OF CLAIMS

A statement identifying the status of the claims is contained in the Appeal Brief.

IV.   STATUS OF AMENDMENTS

A statement identifying the status of amendments is contained in the Appeal Brief.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A summary of the claimed subject matter is contained in the Appeal Brief.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A statement identifying the grounds of rejection to be reviewed on appeal is contained in the Appeal Brief.

VII. RESPONSE TO EXAMINER'S ANSWER

Claim 1 recites a method for storing a structured document in its native format in a database. The method includes receiving a structured document, generating a hierarchical node tree comprising a plurality of nodes, wherein the node tree represents the structured document, and storing the plurality of nodes in at least one record in the database, wherein each record comprises a node slot array, the node slot array including a plurality of node slots, each node slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree. Appellant maintains that Kanne and Hoff do not, alone or in combination, disclose, teach, or suggest the claimed subject matter.

A. Examiner's First Response

In response to Appellant's argument that Kanne and Hoff do not, alone or in combination, disclose, teach, or suggest "each record comprises a node slot array, the node slot array including a plurality of node slots, each node slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree", as recited in claim 1, the Examiner states:

> Kanne provides a method and system for constructing a hierarchical tree node from a structured document such as XML (section 2.2 of Kanne). The Appellant argues that "item #202" cannot be construed as the "node slot array." However the Examiner notes that item "200", which is the data structure, includes the document content array (#202), an Index Offset Array (#210), and a Pointer Array (#206) (see Figure 2 and col 3, lines 41-50). This feature teaches that an array of "nodes slots" (eg the index/pointer list) can point to another array of "nodes" (#202) of the structured document. While

Kanne provides the structured document in hierarchical form, van Hoff clearly teaches the methods and features with those of Kanne needed by a person of ordinary skill in the art to construct this limitation." (April 18, 2008; Examiner's Answer, pgs. 7-8).

Appellant notes that in the Final Office Action, May 23, 2007 final Office action, pg. 4,

Examiner stated:

"Kanne does not disclose that record comprises a node slot array, the node slot array including a plurality of node slots, each node slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree.

Hoff discloses array with plurality of slots where each slot includes a pointer corresponds to a node in the tree (see element array contains a plurality of slots which represents the tree of a structured document, in Fig. 2 item # 202).

Kanne and Hoff et al. are analogous art because they are from the same field of endeavor of parsing document into tree."

However, then, it appears Examiner is reformulating the rejection assertion by stating that:

"This [Hoff] feature [of a data structure] teaches that an array of "nodes slots" (eg the index/pointer list) can point to another array of "nodes" (#202) of the structured document" and is analogous to Kanne **even though** "Kanne does not disclose that record comprises a node slot array, the node slot array including a plurality of node slots, each node slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree."

Appellant disagrees with Examiner's attempted characterization and inherency assertion and finds the reformulation lacking logic.

Although "item # 202" in Hoff cited by the Examiner is an array, "item # 202" in Hoff cannot be construed as the "node slot array" recited in claim 1. Specifically, and contradistinctively to the Examiner's assertions, the "document content array 202" in Hoff **does NOT** include any pointers. Rather, each "content element 204" in "document content array 202" **stores content** (e.g., a start tag, an end tag, a leaf item, etc.) from an HTML document (see, e.g., FIG. 2 of Hoff). Hoff therefore, if instructive, is instructive towards storing content from an HTML document and NOT towards a node slot array where each slot has pointers. Such a characterization is inaccurate and misplaced in view of the

express teachings and disclosure of Hoff. Further the teaching of the storage of content in Hoff is not analogous to the art of Kanne.

Further basis for showing that the teachings of Hoff are not analogous art to that of Kanne as Hoff, therefore, if instructive, is instructive towards storing content from an HTML document and NOT towards a node slot array where each slot has pointers. In addition, Hoff actually teaches against parsing and storing a document in tree format. In particular, Hoff states:

> Conventional HTML document editors represent an HTML document simply as trees in a data structure with starttag, endtag, and leaf items respectively corresponding to the starttags, endtags, and leaf contents of the HTML document. As a result, in editing the HTML document, these HTML document editors must traverse not only the starttag and endtag items of the HTML document, but also all of the elements of the leaf items. This unfortunately makes the editing process complex, cumbersome, and slow. (Col. 1, lns. 27-35 of Hoff).

Hoff also states:

> Unlike in conventional data structures representing HTML documents, the HTML document 125 is represented **linearly** by the data structure 200. (Col. 3, lns. 63-65 of Hoff).

These Hoff passages as previously discussed specifically teach against representing a document in a hierarchical tree format, which is contradistinctive from the teachings of Kanne towards hierarchical node trees as expressly noted by Examiner. Instead, a document in Hoff is represented in linear format.

Examiner has also noted a generic interpretation of the term record as "having no functional relationship to the functionality of the Appellant's claimed invention" (April 18, 2008; Examiner's Response, page 8.) Appellant asserts that those of ordinary skill in the art are able to understand the difference between a record, field, page, and document, and that each has functionality and often physicality in implementation. However, Appellant further notes the absence of the use of the term "record" or "page" anywhere in the Hoff reference. Examiner is desirous to create an equivalency and generic basis to patentably distinctive terms in non-analogous art which fails to teach and observe similar term usage – for the references are not instructive and do not disclose or teach terms or

methods similar to those of the present invention. Appellant believes the absence of the teachings and terms in Hoff clearly indicate the absence of relationship.

Further, contrary to the assertion by Examiner citing MPEP 2141.02 VI, Appellant notes that Appellant has cited more than one alternative in the references and has cited foundational basis in the cited references for clearly setting forth that the cited references teach away from the present invention. Appellant has set forth evidentiary basis within the references per se and in combination which demonstrate that the combination as suggested by Examiner is not a viable combination and is not analogous art from the teaching of the art themselves. Further the combination would not be nor have been combined as the references are not related, would not have been combined, and would be inoperable even if attempted.

Therefore, Hoff does <u>not</u> disclose, teach, or suggest "each record comprises a node slot array, the node slot array including a plurality of node slots, each node slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree", as recited in claim 1. Since the Examiner has admitted that Kanne also fails to disclose, teach, or suggest the claim element, even if Hoff were combined with Kanne, the combination would neither teach nor suggest "each record comprises a node slot array, the node slot array including a plurality of node slots, each node slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree", as recited in claim 1.

Accordingly, based at least on the reasons above, Appellant respectfully submits that the cited references alone or in combination do not teach, suggest or otherwise instruct towards "each record comprises a node slot array, the node slot array including a plurality of node slots, each node slot including a pointer pointing to one of the plurality of nodes in the hierarchical node tree" as is claimed in the present invention.

B.   Examiner's Second Response

In response to Appellant's second argument, Examiner has noted Appellant has set forth arguments which may have been mislabeled. Appellant has corrected such arguments below and notes that Appellant is requesting as a second argument review as to claims 8-9, 21-22, 33, and 38, and their rejection under 35 U.S.C. § 103(a) as being unpatentable over Kanne, in view of Hoff, and further in view of U.S. Patent No. 5,673,334 to Nichani et al. (hereinafter "Nichani").

C.   Examiner's Third Response

In response to Appellant's argument that Claims 5, 18, and 30 are further patentable over Kanne in view of Hoff, the Examiner has continued a position disagreeing with Appellant for similar reasons set forth in Examiner's First Response.

Claim 5, which depends indirectly from claim 1, recites wherein each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page.

Kanne and Hoff do not, alone or in combination, disclose, teach, or suggest the claimed subject matter. Appellant has discussed this position earlier and renews the basis herein again. Appellant asserts that Kanne and Hoff do not, alone or in combination, disclose, teach, or suggest "each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page" as recited in claim 5. Appellant further notes that contrary to Examiner's arguments, Examiner has also noted a generic interpretation of the term page as "having no functional relationship to the functionality of the Appellant's claimed invention" (April 18, 2008; Examiner's Response, page 10.)   Examiner has also erroneously stated that the claim limitation of "storing at least one record on at least one page" sets forth that "Appellant intends no distinction between records and pages." (April 18, 2008; Examiner's Response, page 10).

Appellant does not understand the logic set forth by Examiner in this statement. For instance, the term is inclusive of at least "storing two records on one page" or "storing one record on two pages". These limitations are within the subset of breadth of the claims, and clearly set forth that the nouns can be different and are not necessarily synonymous. Further, referring to the present patent application, Appellant notes that further review by Examiner at least at Page 3, lines 1-2: "The plurality of nodes is stored in one or more records" and Figures 5-7, and at Page 4, lines 19-20: "**The plurality of nodes is stored in one or more records, which in turn are stored on one or more pages**" should be reviewed. Clearly then, Examiner's basis is misplaced.

Appellant asserts that those of ordinary skill in the art are able to understand the difference between a record, field, page, and document, and that each has functionality and often physicality in implementation. However, Appellant further notes the absence of the use of the term "record" or "page" anywhere in the Hoff reference. Examiner is desirous to create an equivalency and generic basis to patentably distinctive terms in non-analogous art which fails to teach and observe similar term usage – for the references are not instructive and do not disclose or teach terms or methods similar to those of the present invention. Appellant believes the absence of the teachings and terms in Hoff clearly indicate the absence of relationship.

Kanne and Hoff do not, alone or in combination, disclose, teach, or suggest "each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page", as recited in claim 5.

In final the Office action, the Examiner states:

"As per claim 5, 18, and 30, Kanne teaches, a method for storing a structured document in its native format in a database. But does not describe that each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page.

Hoff teaches each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page (see plurality of array slot and pointer array points to content element, in Fig. 2 item 206)." (May 23, 2007 final Office action, pg. 5).

Contrary to the Examiner's assertions, the "pointer array 206" in Hoff does not include pointers that point to "record[s] stored on [a] page", as recited in claim 5. Rather, "pointers 208" in the "pointer array 206" of Hoff point to the "content elements 204" of "document content array 202" (see, e.g., FIG. 2 of Hoff).

Since the Examiner has already construed the "document content array 202" of Hoff as disclosing the "node slot array" and the "content elements 204" of Hoff as disclosing the "node slots" recited in claim 1, the Examiner cannot now construe the "document content array 202" of Hoff as disclosing the "page" and the "content elements 204" of Hoff as disclosing the "records" recited in claim 5.

In addition, claim 1 recites that "each record comprises a node slot array". Thus, the pointer from "each record slot" should be pointing to something that includes a "node slot array" and not merely to an element in an array.

Therefore, Hoff does not disclose, teach, or suggest "each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page", as recited in claim 5. Since the Examiner has admitted that Kanne also fails to disclose, teach, or suggest the claim element, even if Hoff were combined with Kanne, the combination would neither teach nor suggest "each page comprises a plurality of record slots, wherein each record slot includes a pointer pointing to a record stored on the page", as recited in claim 5.

Further Appellant renews the argument that Examiner has not established a prima facie case of obviousness. To establish a prima facie case of obviousness, the Examiner must make three basic showings. First, there must be some suggestion or motivation, either in the references or in the prior

knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure (see, e.g., In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Since the Examiner has failed to make the three basic showings, no prima facie case of obviousness has been established. Therefore, claim 5, and the claims that depend therefrom, are patentable over Kanne, in view of Hoff. Given that claims 18 and 30 each recite elements similar to those of claim 5, those claims, and the claims that depend therefrom, are patentable over Kanne, in view of Hoff, for at least the same reasons.

D.   Examiner's Fourth Response

In response to Appellant's second argument, Examiner has noted Appellant has set forth arguments which may have been mislabeled. Appellant has corrected such arguments below and notes that Appellant is requesting as a second argument review as to claims 8-9, 21-22, 33, and 38, and their rejection under 35 U.S.C. § 103(a) as being unpatentable over Kanne, in view of Hoff, and further in view of U.S. Patent No. 5,673,334 to Nichani et al. (hereinafter "Nichani").

E.   Examiner's Fifth Response

In response to Appellant's argument that "Kanne, Hoff, and Nichani do not, alone or in combination, disclose, teach, or suggest "a child pointer points to a node slot pointing to the child node if the child node is a separate node", as recited in claim 8, the Examiner states:

> "Kane, Hoff and Nichiani, in combination, provide all of the methods and
> features for a person of ordinary skill in the art to place pointers for parent nodes to

child nodes and child nodes to parent nodes and therefore, in combination, teach this limitation." (April 18, 2008; Examiner's Answer, pg. 12).

Appellant disagrees. Kanne, Hoff, and Nichani do not, alone or in combination, disclose, teach, or suggest "a child pointer points to a node slot pointing to the child node if the child node is a separate node", as recited in claim 8.

In the final Office action, the Examiner states:

> As per claim 8, 21, and 33, Kanne and Hoff discloses storing structured document in a database. But does not disclose that a child pointer points to a node slot pointing to the child node if the child node is a separate node.
> Nichani et al. discloses a child pointer points to a node slot pointing to the child node if the child node is a separate node (see Fig. 7).
> Kanne, Hoff, and Nichani et al. are analogous art because they are from the same field of endeavor of parsing document into tree. (May 23, 2007 final Office action, pg. 7).

As discussed above, the pointers emanating from each node of the "linked list" in FIG. 7 of Nichani only points to another node of the "linked list". Thus, contrary to the Examiner's assertions, and absent express and explicit basis in the cited references which is both lacking and has not been expressly presented by Examiner, none of the pointers in FIG. 7 of Nichani points to a "node slot" of a "node slot array" that is separate from the "nodes in the hierarchical node tree". As a result, Nichani does not disclose, teach, or suggest "a child pointer points to a node slot pointing to the child node if the child node is a separate node", as recited in claim 8. Hence, even if Nichani were combined with Kanne and Hoff, the combination would neither teach nor suggest the claim element.

Further, Examiner has not established a *prima facie case* of obviousness. To establish a *prima facie case* of obviousness, the Examiner must make three basic showings. First, there must be some suggestion or motivation, either in the references or in the prior knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined)

must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure (*see, e.g.*, In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Since the Examiner has failed to make the three basic showings, no prima facie case of obviousness has been established. Therefore, claim 8, and the claims that depend therefrom, are patentable over Kanne, in view of Hoff, and further in view of Nichani. Given that claims 21 and 33 each recite elements similar to those of claim 8, those claims, and the claims that depend therefrom, are patentable over Kanne, in view of Hoff, and further in view of Nichani, for at least the same reasons.

CONCLUSION

On the basis of the above remarks, and the remarks made in the Appeal Brief, Appellant respectfully submits that the final rejection should be reversed.

Respectfully submitted,
SAWYER LAW GROUP LLP

Dated: _____ June 17, 2008 _____   _ /Joseph A. Sawyer, Jr./ _____

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VIII.   <u>**APPENDIX OF CLAIMS**</u>

A listing of the claims involved on appeal is contained in the Appeal Brief.

IX.   <u>**EVIDENCE APPENDIX**</u>

None

X.   <u>**RELATED PROCEEDINGS APPENDIX**</u>

None